

Title (en)  
MOLD PUMP ENGAGEMENT APPARATUS

Title (de)  
FORMPUMPENKOPPLUNGSVORRICHTUNG

Title (fr)  
APPAREIL DE MISE EN PRISE DE POMPE DE MOULE

Publication  
**EP 3655658 A4 20201125 (EN)**

Application  
**EP 18836073 A 20180720**

Priority  
• US 201762534959 P 20170720  
• US 2018043036 W 20180720

Abstract (en)  
[origin: WO2019018733A1] A molten metal pump assembly and method to fill a mold with molten metal, such as aluminum. The assembly includes a support frame for suspending the molten metal pump above a furnace. The support frame includes a mechanism for lifting and lowering the molten metal pump into engagement and disengagement with the mold.

IPC 8 full level  
**F04D 7/06** (2006.01); **B22D 39/02** (2006.01); **F04D 29/60** (2006.01); **F04D 29/62** (2006.01); **F27B 14/08** (2006.01); **F27D 27/00** (2010.01)

CPC (source: EP KR US)  
**B22D 39/02** (2013.01 - EP KR US); **F04D 7/065** (2013.01 - EP KR US); **F04D 29/605** (2013.01 - EP US); **F04D 29/628** (2013.01 - KR); **F27B 14/08** (2013.01 - EP KR); **F27D 27/005** (2013.01 - EP US); **F27B 2014/0818** (2013.01 - KR)

Citation (search report)  
• [X] EP 2811166 A1 20141210 - PYROTEK INC [US]  
• [X] US 5685701 A 19971111 - CHANDLER RICHARD C [US], et al  
• [X] WO 2015120009 A1 20150813 - PYROTEK INC [US]  
• [X] EP 3181916 A2 20170621 - PYROTEK INC [US]  
• [X] US 4351514 A 19820928 - KOCH FENTON C  
• See references of WO 2019018733A1

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)  
**WO 2019018733 A1 20190124**; AU 2018302286 A1 20200206; BR 112020001040 A2 20200721; CA 3069977 A1 20190124; CN 111226041 A 20200602; CN 111226041 B 20211126; EP 3655658 A1 20200527; EP 3655658 A4 20201125; EP 3655658 B1 20220323; ES 2912659 T3 20220526; JP 2020528513 A 20200924; JP 7227956 B2 20230222; KR 102624701 B1 20240115; KR 20200022035 A 20200302; PL 3655658 T3 20220808; US 11795950 B2 20231024; US 2020141411 A1 20200507; US 2024035475 A1 20240201

DOCDB simple family (application)  
**US 2018043036 W 20180720**; AU 2018302286 A 20180720; BR 112020001040 A 20180720; CA 3069977 A 20180720; CN 201880060678 A 20180720; EP 18836073 A 20180720; ES 18836073 T 20180720; JP 2020502703 A 20180720; KR 20207004065 A 20180720; PL 18836073 T 20180720; US 201816632019 A 20180720; US 202318379903 A 20231013